

Abstract of the Disclosure

A sterile filling machine and related method are provided for sterile filling a container with a substance. The container includes a heat resealable stopper and a chamber for receiving the substance therein. The sealed, empty containers are subjected to radiation capable of penetrating through the stopper and chamber for sterilizing the container. The previously sterilized containers are then transported through an e-beam chamber, wherein an electron beam is directed onto a penetrable surface of the stopper to sterilize the penetrable surface. A needle is mounted within the e-beam chamber and moved into engagement with the stopper to pierce the sterilized penetrable surface of the stopper and inject the substance through the needle and into the chamber of the container. The needle is then withdrawn from the stopper and the filled container is transported outside of the e-beam chamber. Laser energy is then transmitted onto the penetrated surface of the stopper to fuse the stopper material and hermetically re-seal the stopper.